Patent Claims:

1. A modified hirudin molecule being substantially non-immunogenic or less immunogenic than non-modified wild-type hirudin having essentially the same biological specificity and activity when used in vivo, comprising amino acid residues substitutions compared with the non-modified parental molecule, which cause a reduction or an elimination of one or more of T-cell epitopes acting in the parental non-modified molecule as MHC class II binding ligands and stimulating T-cells, said modified hirudin molecule has the (M):

VVYTDCTESGQNX^1CX^2CEGSVX^3CGQGNKC$X^4$$X^5$GSDGEKNQC$X^6$TGEG TP$X^7$$X^8$ESHN$X^9GDX^{10}$EEIPEEYLQ

wherein;

X^1 = T or L

X^2 = T or A or H or Q or T or L;

X^3 = A or G or H or K or N or P or Q or R or V;

X^4 = A or D or E or G or H or K or N or Q or R or S or T or I;

X^5 = A or D or E or G or H or K or N or P or Q or R or S or T or L;

X^6 = A or T or V;

X^7 = T or K;

X^8 = A or T or P;

X^9 = E or N or R or D;

X^{10} = H or F

and whereby the wild-type sequence (X^1 = L, X^2 = L, X^3 = V, X^4 = I, X^5 = L, X^6 = V, X^7 = K, X^8 = P, X^9 = D and X^{10} = F) is excluded.

2. A modified hirudin molecule according to claim 1, wherein

X1 = L,

X2 = L,

X3 = V,

X^4 = A or D or E or G or H or K or N or Q or R or S or T or I;

X^5 = A or D or E or G or H or K or N or P or Q or R or S or T or L;

X^6 = A or T or V;

X^7 = T or K;

X^8 = A or T or P;

X^9 = E or N or R or D; and

X^{10} = H or F.

3. A modified hirudin molecule according to claim 2, wherein
$X^6 = V$;
$X^7 = K$;
$X^8 = P$;
$X^9 = D$; and
$X^{10} = F$.

4. A modified hirudin molecule according to claim 3, wherein
X4 = A or R, and
X5 = A or H.

5. A modified hirudin molecule according to claim 4 having the sequence M1 of Table A.

6. A modified hirudin molecule according to claim 4 having the sequence M2 of Table A.

7. A modified hirudin molecule according to claim 1 having a sequence selected form the group consisting of M1 – M 81 as specified in Table A.

8. A pharmaceutical composition comprising a modified hirudin molecule of any of the claims 1 – 7, optionally together with a pharmaceutically acceptable carrier diluent or excipient.

9. A peptide molecule having the sequence
CILGSDGEKNQCVTGEGTPKPESHNDGDFE (A)
or a sequence track consisting of at least 9 consecutive amino acid residues of any of said peptide molecules having a potential MHC class II binding activity and created from the primary sequence of non-modified hirudin, whereby said peptide molecule or sequence track has a stimulation index of > 1.8 in a biological assay of cellular proliferation and said index is taken as the value of cellular proliferation scored following stimulation by a peptide and divided by the value of cellular proliferation scored in control cells not in receipt peptide.

10. Use of a peptide molecule according to claim 8 for the manufacture of a modified hirudin molecule having a modified immungencity in a patient.